LETTERS

Information Exchange Groups To Be Discontinued: E. A. Confrey; Qualifying Orals for the Ph.D.: M. Hildebrand; Shrouds Around LSD: J. C. Pollard; Fur, Lice, and History: F. L. Dunn; Gerontocracy: M. P. de Garilhe

EDITORIAL

The Worlds of Reflection and Action

ARTICLES

Isotopic Paleotemperatures: C. Emiliani
Three-Dimensional Map Construction: G. F. Jenks and D. A. Brown
Development of Quantum Electrodynamics: S. Tomonaga

NEWS AND COMMENT

University of Montreal—Center of Ferment; Defense Research—Project Hindsight

BOOK REVIEWS

Traditions in Anthropology: R. F. Murphy
The History of Psychiatry, reviewed by E. H. Ackerknecht; other reviews by P. Kotin, H. Linschitz, J. D. Caston, W. L. Stern, P. S. Freier; New Books; Reprints; Miscellaneous Publications

REPORTS

Sediment Movement on the Continental Shelf near Washington and Oregon: M. G. Gross and J. L. Nelson
Thyrocalcitonin: Ultracentrifugation in Gradients of Sucrose: J. L. H. O'Riordan et al.
Pacific Pleistocene Cores: Faunal Analyses and Geochronology: A. Blackman and B. L. K. Somayajulu
Absence of Neutral Alkali Atoms in Rhodizite: G. Donnay et al.
Beach Cusps: Response to Plateau's Rule?: P. E. Cloud, Jr.
Ultrasonic Sensitivity: A Tympanal Receptor in the Green Lace Wing Chrysopa carnea: L. E. Miller and E. G. MacLeod
Chlorinated Hydrocarbon Pesticides: Degradation by Microbes: C. I. Chacko, J. L. Lockwood, M. Zabik
Molybdenum Diseleneide: Rhombohedral High Pressure—High Temperature Polymorph: L. C. Towe et al.
Nucleohistone Dissociation by Ganglioside Micelles: M. H. Meisler and R. H. McCluer 896

Light-Induced Changes in Pineal Hydroxyindole-O-Methyltransferase: Abolition by Lateral Hypothalamic Lesions: J. Axelrod et al. 898

Subacute Sclerosing Leukoencephalitis: Ultrastructure of Intranuclear and Intracytoplasmic Inclusions: I. Tellez-Nagel and D. H. Harter 899

Paraproteinemia and Reticulum Cell Sarcoma in an Inbred Mouse Strain: H. J. Wanebo et al. 901

Substructure of Certain Cytoplasmic Microtubules: An Electron Microscopic Study: P. R. Burton 903

Sweet-Sensitive Protein from Bovine Taste Buds: Isolation and Assay: F. R. Dastoli and S. Price 905

Parathyroid Hormone in Plasma in Adenomatous Hyperparathyroidism, Uremia, and Bronchogenic Carcinoma: S. A. Berson and R. S. Yalow 907

Lipolysis in Homogenates of Adipose Tissue: An Inhibitor Found in Fat from Obese Rats: H. A. Haessler and J. D. Crawford 909

Desert Tortoise Gopherus agassizii: Cutaneous Water Loss: K. Schmidt-Nielsen and P. J. Bentley 911

Nucleotide Formation as a Determinant of 5-Fluorouracil Response in Mouse Leukemias: D. Kessel, T. C. Hall, I. Wodinsky 913

Cilia Regeneration in the Sea Urchin Embryo: Evidence for a Pool of Ciliary Proteins: W. Auclair and B. W. Siegel 915

Comparative Mutagenicity of Two Chemosterilants, Tepa Hempa, in Sperm of Bracon hebetor: J. Palmquist and L. E. LaChance 917


ASSOCIATION AFFAIRS Alcoholism: J. O. Cole 922

MEETINGS Czechoslovak Science: M. Rechcigl, Jr.; Forthcoming Events 924

COVER Three-dimensional map showing population density in central Kansas. Such maps can vividly portray physical and statistical surfaces that are difficult to visualize in conventional two-dimensional format. See page 857. [George F. Jenks and Dwight A. Brown, University of Kansas, Lawrence]
The Worlds of Reflection and Action*

Every great modern university must balance its responsibilities to the worlds of reflection and action. There is a whole range of social roles between the ivory tower and the executive desk. At one end of the spectrum sits Thoreau by his pond, the poet in his garret, the scholar in his study. At the other sits the active citizen in his committee meeting, the leader surrounded by his followers. Every individual must decide where to place himself along that range. Each has to decide how much he wants to become personally involved in the action and effort of his society.

A society that aspires to creativity has urgent need of its detached scholars and critics, as well as of those who will become deeply involved in the world of action. Our society must have the wisdom to reflect and the fortitude to act. It must provide the creative soil for new ideas and the skill and patience and hardihood to put those ideas into action. The creative society will be one in which there is continuous and fruitful interaction between the two worlds of action and reflection. And no institution in our society can do more to keep that interaction vital and productive than the university. It must preserve within its walls an environment in which the relatively disengaged scholar, artist, critic, scientist, or writer can live and flourish. But it must also relate itself to the organized world of action.

There are those in the population, even in the alumni population, even on the boards of trustees of some universities, who resent the fact that the university is a haven for dissent, for criticism, and for the free examination of assumptions and practices. They often strive to diminish this fundamental role of a university. They seem to imagine that the chief role of the university is to endorse the status quo.

On the other side, there are some within the university community who seem to want to cut all ties with the rest of the society and to persuade every last student to choose the life of detachment and dissent. They do not like the way the society is run, but they are not inclined to prepare young people to run it better. And they communicate to their students a moral snobbism toward those who live with the ethical dilemmas of responsible action.

The life of reflection is not superior to the life of action, or vice versa. Both are essential to a vital society. Surely our universities should strive to be as effective in preparing young people for one role as for the other.

I hope that in preparing young men and women for lives as scholars and critics our universities will make them aware of the dangers of irresponsibility and moral snobbism. I hope that in preparing them for the world of business and government the universities will make them appreciative of the social function of the scholar, the dissenter, and the critic. Finally, I hope that the universities will persuade a reasonable proportion of their graduates to move back and forth between the two worlds.—John W. Gardner, Secretary of Health, Education, and Welfare.

*This editorial is adapted from remarks delivered at the 75th Anniversary Convocation of the California Institute of Technology, Pasadena, 24 October 1966.